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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,803	12/20/2001	Kanetaka Sekiguchi	011701	8645

23850 7590 10/06/2003

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EXAMINER	
DUONG, THOI V	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/926,803	SEKIGUCHI ET AL.	
	Examiner	Art Unit	
	Thoi V Duong	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This office action is in response to the Amendment, Paper No. 9, filed June 30, 2003.

Accordingly, claims 1 and 2 were amended. Currently, claims 1-36 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 2, 4, 6, 10, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shingu et al. (USPN 6,292,243 B1) in view of Margerum et al. (USPN 5,099,343) and Sumita (JP 53-097457).

As shown in Fig. 3, Shingu et al. discloses a liquid crystal display (LCD) device comprising a liquid crystal display panel 1 in which a first substrate 11 formed with a signal electrode 12 and a second substrate 15 formed with a single counter electrode 14 on one surface, respectively, are coupled together, with said signal electrode and said counter electrode opposed each other, with a fixed gap provided therebetween by interposing a sealing part 28 at an outer peripheral part of a display area, and a liquid layer 13 is provided in the gap (col. 8, line 43 through col. 9, line 1), wherein:

said signal electrode 12 is composed of a pattern electrode 12 isolatedly formed within said display area, and a wiring electrode formed across said display area in order

to selectively apply voltage to said pattern electrode (see Figs. 14 and 15, and col. 17, lines 16-37);

said counter electrode 15 is provided in an area to face said pattern electrode 12 (Fig. 3); said first substrate 20, said second substrate 15, said signal electrode and said counter electrode are all transparent (col. 8, lines 48-59);

said liquid crystal layer is a scattering type liquid crystal layer which changes in transmittance and scattering rate depending on existence or absence of application of voltage by means of said signal electrode and said counter electrode, in which a scattering degree increases in a part to which voltage is applied (col. 3, lines 1-35 and col. 9. lines 8-17);

said scattering type liquid crystal layer of said liquid crystal display panel is a mixed liquid crystal layer composed of transparent solid substances and a liquid crystal, which is produced by applying ultraviolet light to liquid composed of liquid crystal and organic monomers (col. 9, lines 53-64); and

an ultraviolet cutting layer 20 is provided on the outer surface of the first substrate 11.

Shingu et al. discloses a LCD device that is basically the same as that recited in claims 2, 4, 6, 10, 12, 24 and 26 except for a light source means which emits linearly polarized light being disposed outside a peripheral part of said liquid crystal display panel, and a sealing part facing the light source means has a light transmitting property to allow linearly polarized light emitted from said light source means to pass through said sealing part and enter said liquid crystal.

As shown in Fig. 3, Margerum discloses a LCD device 10' comprising a liquid crystal panel 12, a PDLC layer 16, a first substrate 32 formed with a signal electrode 20 and a second substrate 30 formed with a counter electrode 18, and a light source means 34 which emits linearly polarized light being disposed outside a peripheral part of said liquid crystal display panel (col. 8, lines 66-68 and col. 9, lines 1-3),

wherein said liquid crystal display panel, in which an outside of said second substrate 18 is a visible side 54, always presents a condition outside said first substrate to the visible side, a luminosity of a scattering part, where the transparency does not increase, of said liquid crystal layer becomes higher than luminosities of other parts while a light source part of said light source means is turned on, and the luminosity of said scattering part of said liquid crystal layer becomes lower than the luminosities of the other parts while said light source part is turned off (col. 4, lines 20-35);

wherein said light source means comprises a light source part 34 and a polarization separating device 50 disposed between the light source part and an outer peripheral part of said liquid crystal display panel;

wherein an optical means composed of a diffuser 46 is provided between said light source part of said light source means and said polarization separating device;

wherein said scattering type liquid crystal layer of said liquid crystal display panel is a mixed liquid crystal layer composed of transparent solid substances and a liquid crystal, which is produced by applying ultraviolet light to liquid composed of liquid crystal and organic monomers (col. 5, lines 34-46), and said polarization separating device is disposed so that a transmission axis thereof almost matches with a direction in which a

difference between a refractive index of said transparent solid substance and a refractive index of said liquid crystal of said mixed liquid crystal layer is small (col. 5, lines 14-18);

wherein a diffuser 46 is provided between said polarization separating device and said light source part, and a reflector 42 is provided around said light source part;

wherein an anti-reflection layer 33 for preventing reflection of light within a wavelength range of light emitted by said light source part is provided at least on an outer surface of said first substrate of said liquid crystal display panel; and

Meanwhile, as shown in Fig. 2, Sumita discloses a LCD device 10 comprising a sealing part made of a transparent material to lead illuminating light without loss from a light source 19 to a display part 15 (see Abstract).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD device of Shingu et al. with the teachings of Margerum and Sumita by employing a light source means which emits linearly polarized light being disposed outside a peripheral part of the liquid crystal display panel, and a sealant part facing the light source means having a light transmitting property to allow linearly polarized light emitted from the light source means to pass through the sealing part and enter the liquid crystal layer at an outer periphery part of the display area so as to improve the light illumination.

4. Claims 1, 3, 5, 9, 23, 25, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (USPN 4,299,462) in view of Margerum et al. (USPN 5,099,343) and Sumita (JP 53-097457).

As shown in Figs. 9(a)-9(c), Suzuki et al. discloses a liquid crystal display (LCD) device comprising a liquid crystal display panel 18 in which a first substrate 10' formed with a signal electrode 11T, 25T and a second substrate 11' formed with a single counter electrode 11T' on one surface, respectively, are coupled together, with said signal electrode and said counter electrode opposed each other, with a fixed gap provided therebetween by interposing a sealing part S at an outer peripheral part of a display area, and a liquid layer is provided in the gap (see Fig. 4(b) and col. 7, lines 60-64), wherein:

said signal electrode is composed of a surrounding electrode 11T formed as a single body over almost the entire area of said display area, a pattern electrode 25T isolatedly formed within said display area, and a wiring electrode 10R formed across said surrounding electrode 11T with a gap provided between said wiring electrode 10R and said surrounding electrode 11T in order to selectively apply voltage to said pattern electrode 25T (col. 9, lines 38-58);

said counter electrode 11T' is provided in an area to face said pattern electrode (Fig. 9(c));

said first substrate, said second substrate, said signal electrode and said counter electrode are all transparent (col. 9, lines 21-31); and

said LCD device is a module to be installed in a finder optical system of a camera, and said pattern electrode 25T of said LCD panel 18 is an electrode for displaying an autofocus target pattern (col. 9, lines 31-58), wherein a finder screen 23

(Fig. 9(b) is disposed outside said first substrate and a finder lens (as 1 in Fig. 2) is disposed outside said second substrate of said LCD panel respectively.

Suzuki et al. discloses a LCD device that is basically the same as that recited in claims 1, 3, 5, 9, 23, 25, 27 and 29 except for a light source means which emits linearly polarized light being disposed outside a peripheral part of said liquid crystal display panel, a scattering type liquid crystal layer which changes in transmittance and scattering rate depending on existence or absence of application of voltage by means of said signal electrode and said counter electrode in which transparency increases in a part to which voltage is applied, and a sealing part facing the light source means has a light transmitting property to allow linearly polarized light emitted from said light source means to pass through said sealing part and enter said liquid crystal.

As shown in Fig. 3, Margerum discloses a LCD device 10' comprising a liquid crystal panel 12, a PDLC layer 16, a first substrate 32 formed with a signal electrode 20 and a second substrate 30 formed with a counter electrode 18, a light source means 34 which emits linearly polarized light (col. 8, lines 66-68 and col. 9, lines 1-3) being disposed outside a peripheral part of said liquid crystal display panel, and a scattering type liquid crystal layer which changes in transmittance and scattering rate depending on existence or absence of application of voltage by means of said signal electrode and said counter electrode, in which transparency increases in a part to which voltage is applied (col. 1, lines 20-49; col. 3, lines 62-68 and col. 4, lines 1-6) for increasing the display contrast (col. 2, lines 18-58),

wherein said liquid crystal display panel, in which an outside of said second substrate 18 is a visible side 54, always presents a condition outside said first substrate to the visible side, a luminosity of a scattering part, where the transparency does not increase, of said liquid crystal layer becomes higher than luminosities of other parts while a light source part of said light source means is turned on, and the luminosity of said scattering part of said liquid crystal layer becomes lower than the luminosities of the other parts while said light source part is turned off (col. 4, lines 20-35);

wherein said light source means comprises a light source part 34 and a polarization separating device 50 disposed between the light source part and an outer peripheral part of said liquid crystal display panel;

wherein an optical means composed of a diffuser 46 is provided between said light source part of said light source means and said polarization separating device;

wherein said scattering type liquid crystal layer of said liquid crystal display panel is a mixed liquid crystal layer composed of transparent solid substances and a liquid crystal, which is produced by applying ultraviolet light to liquid composed of liquid crystal and organic monomers (col. 5, lines 34-46), and said polarization separating device is disposed so that a transmission axis thereof almost matches with a direction in which a difference between a refractive index of said transparent solid substance and a refractive index of said liquid crystal of said mixed liquid crystal layer is small (col. 5, lines 14-18);

wherein a diffuser 46 is provided between said polarization separating device and said light source part, and a reflector 42 is provided around said light source part;

wherein an anti-reflection layer 33 for preventing reflection of light within a wavelength range of light emitted by said light source part is provided at least on an outer surface of said first substrate of said liquid crystal display panel; and

Meanwhile, as shown in Fig. 2, Sumita discloses a LCD device 10 comprising a sealing part made of a transparent material to lead illuminating light without loss from a light source 19 to a display part 15 (see Abstract).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD device of Suzuki et al. with the teachings of Margerum and Sumita by employing a light source means which emits linearly polarized light being disposed outside a peripheral part of the liquid crystal display panel, a scattering type liquid crystal layer which changes in transmittance and scattering rate depending on existence or absence of application of voltage by means of said signal electrode and said counter electrode, in which transparency increases in a part to which voltage is applied, and a sealant part facing the light source means having a light transmitting property to allow linearly polarized light emitted from the light source means to pass through the sealing part and enter the liquid crystal layer at an outer periphery part of the display area so as to improve the light illumination and to obtain a high contrast for the display.

5. Claims 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shingu et al. (USPN 6,292,243 B1) in view of Margerum et al. (USPN 5,099,343) and Sumita (JP 53-097457) as applied to claims 2, 4, 6, 10, 24 and 26 and further in view of Suzuki et al. (USPN 4,299,462).

The LCD device of Shingu et al. as modified in view of Margenum et al. and Sumita above includes all that is recited in claims 28 and 30 except for employing the LCD device in a finder optical system of a camera. As shown in Figs. 2 and 9(a)-9(c), Suzuki et al. discloses a camera having liquid crystal panel 18 as a module to be installed in a finder optical system of the camera (col. 9, lines 9-11), and a pattern electrode 25T of said LCD panel 18 is an electrode for displaying an autofocus target pattern (col. 9, lines 31-58), wherein a finder screen 23 (Fig. 9(b) is disposed outside said first substrate and a finder lens (as 1 in Fig. 2) is disposed outside said second substrate of said LCD panel respectively so as to obtain brightness even in a dark place and hence minimize the power consumption (col. 24, lines 48-55). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the LCD device of Shingu et al. with the teaching of Suzuki et al. by employing the LCD device in a finder optical system of a camera for displaying photographic informations and minimize the power consumption.

6. Claims 8, 12, 14, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shingu et al. (USPN 6,292,243 B1) in view of Margerum et al. (USPN 5,099,343) and Sumita (JP 53-097457) as applied to claims 2, 4, 6, 10, 24 and 26, and further in view of Kobayashi et al. (USPN 6,246,506 B1).

The LCD device of Shingu et al. as modified in view of Margerum and Sumita above includes all that is recited in claims 8, 12, 14, 16 and 18 except for a polarization separating device composing of an absorption type polarizer and a reflection type polarizer. As shown in Fig. 1, Kobayashi et al. discloses an optical projector 10

comprising a light source 11, a polarizer separating device 13 including a reflection type polarizer 20 and an absorption type polarizer 21, and a light valve 15 including a liquid crystal panel 50,

wherein said absorption type polarizer having a transmission axis 24 and an absorption axis 25 substantially perpendicular to the transmission axis, and said reflection type polarizer 20 having a transmission axis 22 and a reflection axis 23 substantially perpendicular to the transmission axis, and said absorption type polarizer 21 is disposed on said liquid crystal display panel side 50 and said reflection type polarizer 20 is disposed on said light source part side respectively with directions of the respective transmission axes of said absorption type polarizer and said reflection type polarizer matching with each other (col. 8, line 51 through col. 9, line 22) so as to improve the luminance of the optical images (col. 4, lines 30-34); and

wherein, as shown in Fig. 45A, an optical means 111 composed of a convex lens 11a, 11b provided between said light source part of said light source means and said polarization separating device (col. 27, lines 9-21).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the LCD device of Shingu et al. with the teaching of Kobayashi et al. by employing a polarization separating device which composes of a reflection type polarizer having a transmission axis and an reflection axis substantially perpendicular to the transmission axis and an absorption type polarizer having a transmission axis and an absorption axis substantially perpendicular to the transmission axis for improving the visibility of the optical images.

7. Claims 7, 11, 13, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (USPN 4,299,462) in view of Margerum et al. (USPN 5,099,343) and Sumita (JP 53-097457) as applied to claims 1, 3, 5, 9, 23, 25, 27 and 29, and further in view of Kobayashi et al. (USPN 6,246,506 B1).

The LCD device of Suzuki et al. as modified in view of Margerum and Sumita above includes all that is recited in claims 7, 11, 13, 15 and 17 except for a polarization separating device composing of an absorption type polarizer and a reflection type polarizer. As shown in Fig. 1, Kobayashi et al. discloses an optical projector 10 comprising a light source 11, a polarizer separating device 13 including a reflection type polarizer 20 and an absorption type polarizer 21, and a light valve 15 including a liquid crystal panel 50,

wherein said absorption type polarizer having a transmission axis 24 and an absorption axis 25 substantially perpendicular to the transmission axis, and said reflection type polarizer 20 having a transmission axis 22 and a reflection axis 23 substantially perpendicular to the transmission axis, and said absorption type polarizer 21 is disposed on said liquid crystal display panel side 50 and said reflection type polarizer 20 is disposed on said light source part side respectively with directions of the respective transmission axes of said absorption type polarizer and said reflection type polarizer matching with each other (col. 8, line 51 through col. 9, line 22) so as to improve the luminance of the optical images (col. 4, lines 30-34); and

wherein, as shown in Fig. 45A, an optical means 111 composed of a convex lens 11a, 11b provided between said light source part of said light source means and said polarization separating device (col. 27, lines 9-21).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the LCD device of Suzuki et al. with the teaching of Kobayashi et al. by employing a polarization separating device which composes of a reflection type polarizer having a transmission axis and an reflection axis substantially perpendicular to the transmission axis and an absorption type polarizer having a transmission axis and an absorption axis substantially perpendicular to the transmission axis for improving the visibility of the optical images.

8. Claims 19, 21, 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (USPN 4,299,462) in view of Margerum et al. (USPN 5,099,343) and Sumita (JP 53-097457) as applied to claims 1, 3, 5, 9, 23, 25, 27 and 29 above, and further in view of Kinoshita (JP 64-003631).

The LCD device of Suzuki et al. as modified in view of Margerum et al. and Sumita above includes all that is recited in claims 19, 21, 31 and 33 except for a light intensity change means which controls increase and decrease of an intensity of light to make incident on said liquid crystal display panel in accordance with an intensity of light incident on said liquid crystal display panel from outside said first substrate is provided in said light source means. As shown in Fig. 1, Kinoshita discloses a LCD device that controls the illumination of a light source part 2, which illuminates the display region of the LCD device, with an illumination control means 41 by detecting the quantity of

ambient light with an optical sensor 5. The illuminance of the light source part is variably controlled according to the use condition of the device (see Abstract). Accordingly, the light source part can selectively emits light in different optical wavelength regions and can be selectively turned on in accordance with brightness of environments or strength of incoming light, and period in which said light source part is turned on can be selected. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the LCD device of Suzuki et al. with the teaching of Kinoshita by employing a light intensity change means which controls increase and decrease of an intensity of light to make incident on said liquid crystal display panel in accordance with an intensity of light incident on said liquid crystal display panel from outside said first substrate is provided in said light source means so as to extend the life of the light source part without degrading display visibility.

9. Claims 20, 22, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shingu et al. (USPN 6,292,243 B1) in view of Margerum et al. (USPN 5,099,343) and Sumita (JP 53-097457) as applied to claims 2, 4, 6, 10, 24 and 26 above, and further in view of Kinoshita (JP 64-003631).

The LCD device of Shingu et al. as modified in view of Margerum et al. and Sumita above includes all that is recited in claims 20, 22, 32 and 34 except for a light intensity change means which controls increase and decrease of an intensity of light to make incident on said liquid crystal display panel in accordance with an intensity of light incident on said liquid crystal display panel from outside said first substrate is provided in said light source means. As shown in Fig. 1, Kinoshita discloses a LCD device that

controls the illumination of a light source part 2, which illuminates the display region of the LCD device, with an illumination control means 41 by detecting the quantity of ambient light with an optical sensor 5. The illuminance of the light source part is variably controlled according to the use condition of the device (see Abstract). Accordingly, the light source part can selectively emits light in different optical wavelength regions and can be selectively turned on in accordance with brightness of environments or strength of incoming light, and period in which said light source part is turned on can be selected. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the LCD device of Shingu et al. with the teaching of Kinoshita by employing a light intensity change means which controls increase and decrease of an intensity of light to make incident on said liquid crystal display panel in accordance with an intensity of light incident on said liquid crystal display panel from outside said first substrate is provided in said light source means so as to extend the life of the light source part without degrading display visibility.

10. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shingu et al. (USPN 6,292,243 B1) in view of Margerum et al. (USPN 5,099,343) and Sumita (JP 53-097457) as applied to claims 2, 4, 6, 10, 12, 24, 26, 28 and 30 above and further in view of Maruyama (USPN 6,075,951) and Kim (USPN 5,926,243).

The LCD device of Shingu et al. as modified in view of Margenum and Sumita above includes all that is recited in claim 36 except for a heat insulating seal formed between formed between a panel holding frame and a panel fixing frame. As shown in Figs. 4(a) and 4(b), Maruyama discloses a camera comprising a fixing frame 104, a

panel holding frame (not shown), and a liquid crystal display panel 103 installed in a finder optical system of the camera for displaying an object image (see also Figs. 1(a) and 1(b) and col. 3, lines 4-10). Meanwhile, as shown in Fig. 1, Kim discloses a liquid crystal display device comprising a heat insulating seal 12 provided to thermally isolate liquid crystal 8 from the external environment and thereby prevent the liquid crystalline phase of the liquid crystal from being changed (col. 3, lines 36-42). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Shingu et al. with the teachings of Maruyama and Kim by installing the device in a finder optical system of a camera and forming a heat insulating seal between a holding frame and a fixing frame of the camera so as to obtain a display without deterioration in contrast due to the external environment.

11. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (USPN 6,292,243 B1) in view of Margerum et al. (USPN 5,099,343) and Sumita (JP 53-097457) as applied to claims 1, 3, 5, 9, 23, 25, 27 and 29 above and further in view of Maruyama (USPN 6,075,951) and Kim (USPN 5,926,243).

The LCD device of Shingu et al. as modified in view of Margenum and Sumita above includes all that is recited in claim 35 except for a heat insulating seal formed between formed between a panel holding frame and a panel fixing frame. As shown in Figs. 4(a) and 4(b), Maruyama discloses a camera comprising a fixing frame 104, a panel holding frame (not shown), and a liquid crystal display panel 103 installed in a finder optical system of the camera for displaying an object image (see also Figs. 1(a)

and 1(b) and col. 3, lines 4-10). Meanwhile, as shown in Fig. 1, Kim discloses a liquid crystal display device comprising a heat insulating seal 12 provided to thermally isolate liquid crystal 8 from the external environment and thereby prevent the liquid crystalline phase of the liquid crystal from being changed (col. 3, lines 36-42). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Suzuki et al. with the teachings of Maruyama and Kim by installing the device in a finder optical system of a camera and forming a heat insulating seal between a holding frame and a fixing frame of the camera so as to obtain a display without deterioration in contrast due to the external environment.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong

09/11/2003

ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800